UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/733,385 | 12/04/2000 | Steven J. Harrington | D/A0657 | 7423 |

62095 7590 10/03/2008

FAY SHARPE / XEROX - ROCHESTER
1100 SUPERIOR AVE.
SUITE 700
CLEVELAND, OH 44114

| EXAMINER | |
|---|---|
| LUDWIG, MATTHEW J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2178 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 10/03/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/733,385 | HARRINGTON, STEVEN J. | |
| | Examiner | Art Unit | |
| | MATTHEW J. LUDWIG | 2178 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *9,10,12 and 18-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9,10,12 and 18-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. This action is responsive to the amendment received 7/2/08.

2. Claims 9, 10, 12, 18, and 19-22 are pending in the application. Claims 9, 12, 18, 19, and claim 21, are independent claims.

3. Claims 9, 10, and 18-22, rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al., Pat. Pub. US 2002/0040375 in view of Guttman have been modified pursuant to applicant's amendments.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 9, 10, 12, 18-22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al., Pat Pub. US 2002/0040375 filed (4/3/2001) in view of Guttman et al., USPN 6,366,918 filed (3/21/2000).**

**In reference to Independent claim 9 and 12**, Simon teaches:

A user interacts with the PC via input devices such as a mouse and/or keyboard, and a display monitor. The goal of the optimization is to find a page layout that minimizes the cost function. In the preferred embodiment a simulated annealing approach is used to find an optimal page layout. Furthermore, Simon teaches the cost function is equal to the white space. See page 2, [0047], page 4, [0059] through [0061]. The reference provides instructions for the collection

of document data based upon a cost function and the intent information of the creator/user through the use of a display device (compare to "***user interface which collects document data and quantitative document intent information in the form of a document intent vector***"). Simon teaches that a user, upon reaching an acceptable page layout may choose to store a template of the page layout for future use instead of iterating through page layout subroutine (compare to "***displays examples of the effects of quantitative document intent information, said examples being selectable via said user interface***"). See page 3, [0051].

The reference fails to explicitly state a document intent vector; however, the reference to Simon teaches optimization of page layouts through the minimization of cost functions. As recited in the independent claim, the intent vector including document costs as a factor. The process of modifying, scoring, and comparing a new page layout, is determined through the utilization of algorithms. The well known page layout optimization methods which make use of cost functions suggests a ***form of an intent vector*** for issuing an optimized page layout. See page 4, [0060] through [0062]. The reference provides document costs as document intent however the reference does not teach or suggest a matrix of weights that give the contribution of each value property to each intent. The reference to Guttman discloses a method of optimization whereby weights are determined based upon aesthetics of the layout, cost of the layout, etc. The reference teaches an optimal layout being a layout that satisfies advertisers' requirements, maximizes revenues, and minimizes costs. See column 7, lines 9-67 and column 8, lines 1-34. It would have been obvious to one of ordinary skill in the art, having the references of Simon and Guttman before them, at the time the invention was made to have modified the singular cost function analysis of Simon to include multiple constraints/weights and optimization methods as

taught by Guttman to provide a layout that satisfies multiple requirements for a document display.

The user, upon reaching an acceptable page layout may choose to store a template of the page layout for future use instead of iterating through page layout subroutines (compare to "***a document editor, generating and the applying said document intent vector to a stored document file***"). See page 3, [0051] through [0055].

The page layout subroutine may take into account the aesthetic considerations of the image page layout. One important aesthetic considerations of the image page layout (compare to "***a document formatter, using said document intent vector to format the document for subsequent display at said user interface***"). See page 3, [0055] through [0056].

**In reference to dependent claim 10**, Simon teaches:

The layout subroutine calculates a page layout of the images on the image page and displays the results on display monitor. At this point, the user can either accept the image page layout or iterate throughout page layout subroutine until an acceptable image page is obtained. See page 3, [0050] through [0051].

**In reference to independent claim 18, 19, and 21**, Simon teaches:

A user interacts with the PC via input devices such as a mouse and/or keyboard, and a display monitor. The goal of the optimization is to find a page layout that minimizes the cost function. In the preferred embodiment a simulated annealing approach is used to find an optimal page layout. Furthermore, Simon teaches the cost function is equal to the white space. See page 2, [0047], page 4, [0059] through [0061]. The reference provides instructions for the collection of document data based upon a cost function and the intent information of the creator/user

through the use of a display device (compare to "***user interface which collects document data and quantitative document intent information in the form of a document intent vector***"). Simon teaches that a user, upon reaching an acceptable page layout may choose to store a template of the page layout for future use instead of iterating through page layout subroutine (compare to "***displays examples of the effects of quantitative document intent information, said examples being selectable via said user interface***"). See page 3, [0051].

The reference fails to explicitly state a document intent vector; however, the reference to Simon teaches optimization of page layouts through the minimization of cost functions. As recited in the independent claim, the intent vector including document costs as a factor. The process of modifying, scoring, and comparing a new page layout, is determined through the utilization of algorithms. The well known page layout optimization methods which make use of cost functions suggest an intent vector for issuing an optimized page layout. See page 4, [0060] through [0062]. The reference provides document costs as document intent however the reference does not teach or suggest a matrix of weights that give the contribution of each value property to each intent. The reference to Guttman discloses a method of optimization whereby weights are determined based upon aesthetics of the layout, cost of the layout, etc. The reference teaches an optimal layout being a layout that satisfies advertisers' requirements, maximizes revenues, and minimizes costs. See column 7, lines 9-67 and column 8, lines 1-34. It would have been obvious to one of ordinary skill in the art, having the references of Simon and Guttman before them, at the time the invention was made to have modified the singular cost function analysis of Simon to include multiple constraints/weights and optimization methods as taught by Guttman to provide a layout that satisfies multiple requirements for a document display.

The user, upon reaching an acceptable page layout may choose to store a template of the page layout for future use instead of iterating through page layout subroutines (compare to "***a document editor, generating and the applying said document intent vector to a stored document file***"). See page 3, [0051] through [0055].

The page layout subroutine may take into account the aesthetic considerations of the image page layout. One important aesthetic considerations of the image page layout (compare to "***a document formatter, using said document intent vector to format the document for subsequent display at said user interface***"). See page 3, [0055] through [0056].

**In reference to dependent claim 20**, Simon teaches:

The problem of generating an acceptable image page layout that contains n images can be formulated as a combinatorial optimization problem. The most practical way of solving combination optimization problem is to use stochastic algorithms, such as simulated annealing or genetic algorithms. See page 3, [0056] through [0058].

**In reference to dependent claim 22**, Simon teaches:

The goal of the optimization is to find a page layout that minimizes the cost function. See page 4, [0059] through [0060].

### *Response to Arguments*

6. Applicant's arguments with respect to claims 9, 10, 12, and 18-22, have been considered but are not persuasive.

Applicant amended the claims to include language which states 'a matrix of weights that give the contribution of each value property to each intent'. The newly added limitation fails to overcome the references of Simon in view of Guttman for reasons found below.

Applicant states that the examiner fails to show where the quantitative document intent information is used in conjunction with matrix of weights for each value property as stated in each of the independent claims. Simon teaches different simulated annealing approaches to solving complex problems related to page layout optimizations. As presently claimed, the example given by the reference to Simon related to scaling suggests a matrix of weights that give the contribution of each value property (scaling limits and scaling images) for layout to be generated that possess very different artistic look and feel. The annealing approach taught by Simon and more specifically the numbers utilized in the scaling factors represent a similar matrix of weights that give the contribution based upon the intent to minimize or maximize white space on a document. The claims state a 'matrix of weight' however the specification seems to point to a matrix of weights as a specific value or number similar to the scaling factor utilized in the reference to Simon. The formula disclosed in the specification is I = AV with 'A' being a matrix of weights. Without any further description in the claim, the simulated annealing approach to solving complex problems related to page layout optimizations and more importantly, the scaling factors mentioned within the reference to Simon teach a similar factor to be used to formulate a layout to be generated with different artistic look and feel.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. LUDWIG whose telephone number is (571)272-4127. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML

/Stephen S. Hong/

Supervisory Patent Examiner, Art Unit 2178